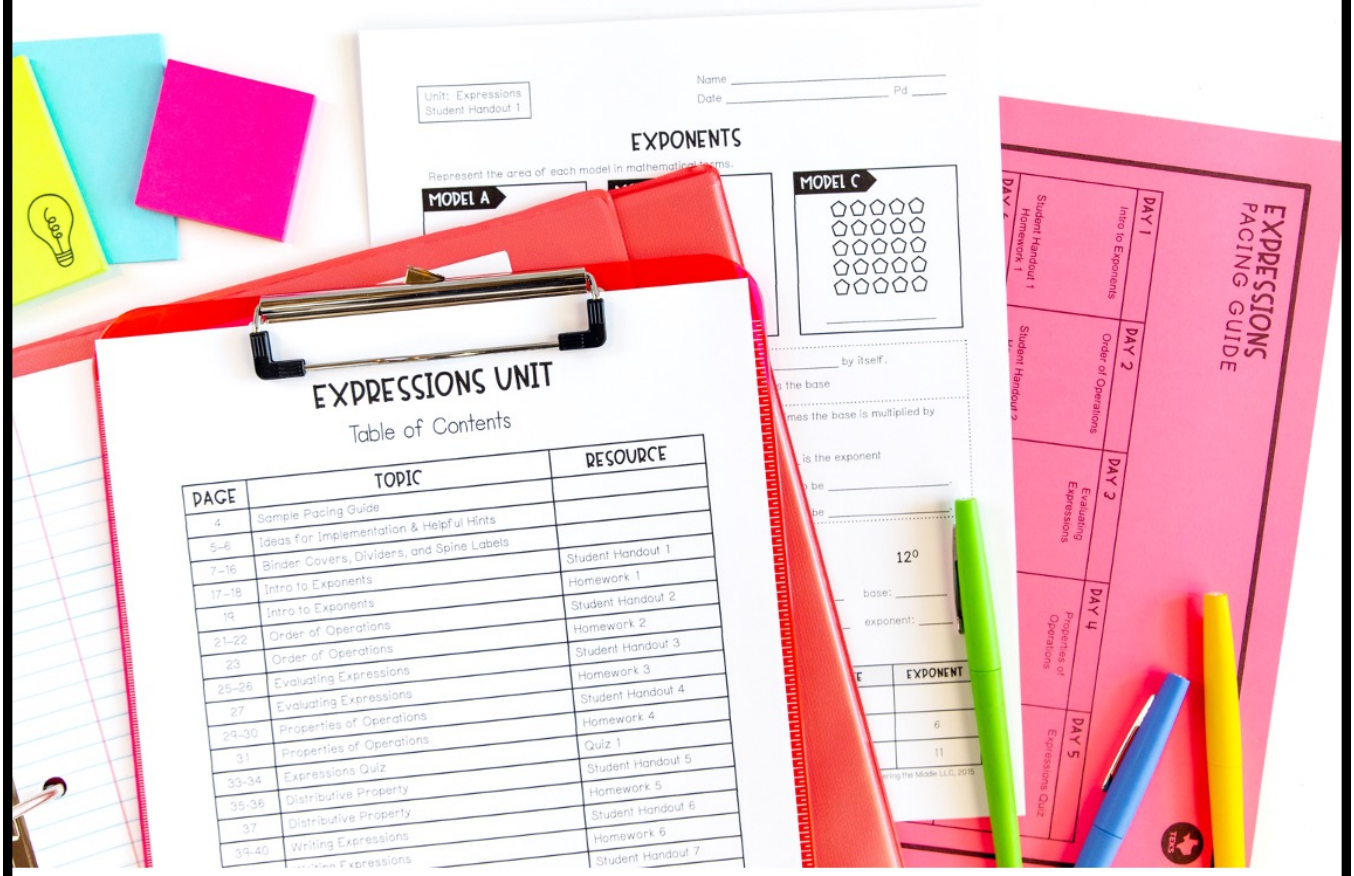
learning focus:

- ✓ generate equivalent expressions using order of operations
- ✓ write and evaluate expressions
- ✓ apply properties of operations to generate equivalent expressions

EXPRESSIONS UNIT

6th GRADE

11 DAY CCSS-ALIGNED UNIT



A MANEUVERING THE MIDDLE ® RESOURCE

EXPRESSIONS

6th GRADE

a 10 day CCSS-aligned unit

CCSS: 6.EE.1, 6.EE.2, 6.EE.2a-c, 6.EE.3, 6.EE.4

ready-to-go, scaffolded student materials

EXPRESSIONS UNIT

Table of Contents

A MANEUVERING THE MIDDLE® RESOURCE

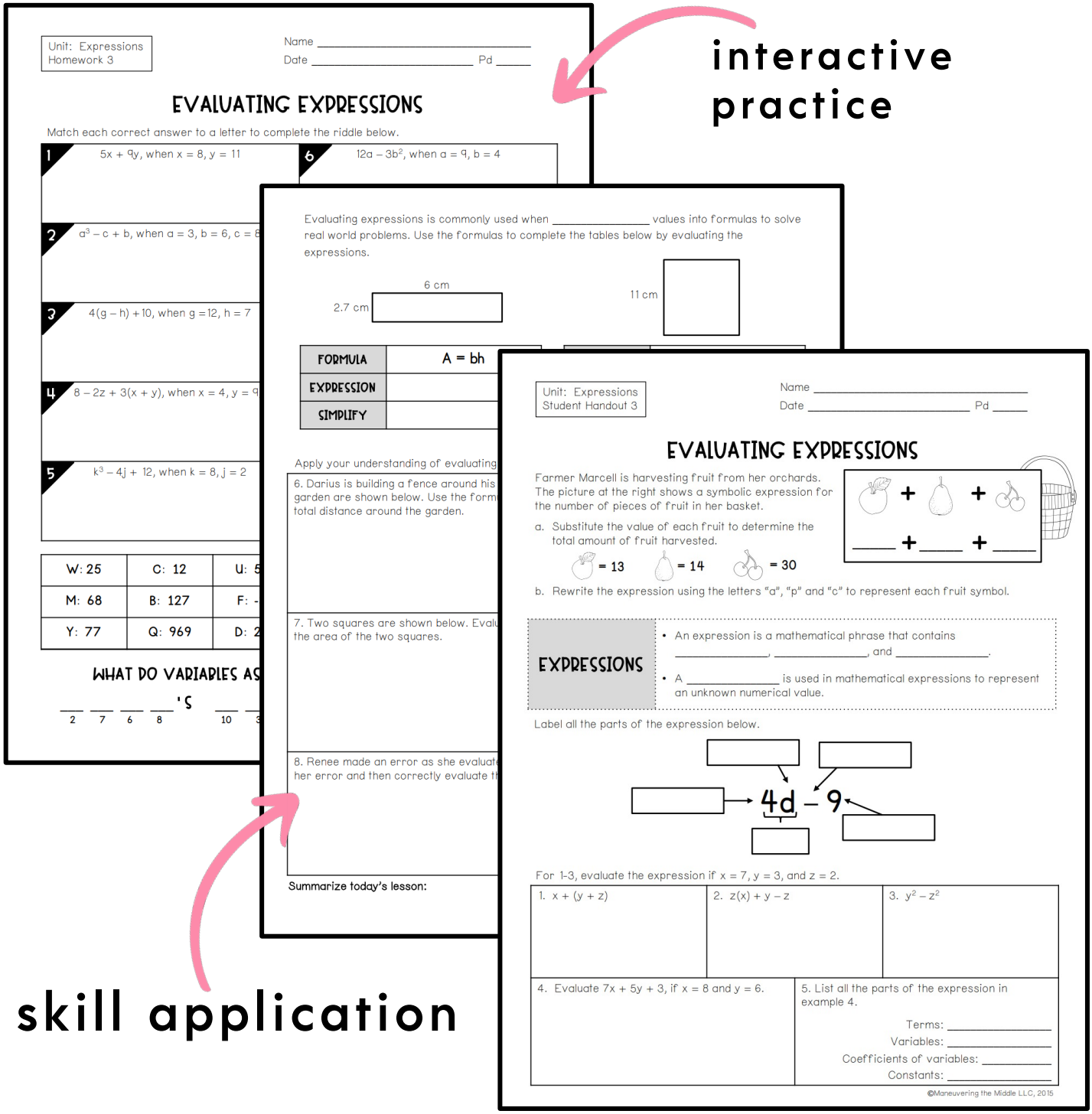
EXPRESSIONS

6th GRADE

a 10 day CCSS-aligned unit

CCSS: 6.EE.1, 6.EE.2, 6.EE.2a-c, 6.EE.3, 6.EE.4

student friendly + real-world application



interactive practice

skill application

A MANEUVERING THE MIDDLE® RESOURCE

EXPRESSIONS

6th GRADE

a 10 day CCSS-aligned unit

CCSS: 6.EE.1, 6.EE.2, 6.EE.2a-c, 6.EE.3, 6.EE.4

streamline your planning process with unit overviews

EXPRESSIONS OVERVIEW

CCSS

STANDARDS

6.EE.1 Write and evaluate numerical expressions involving whole-number exponents.

6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers.

- **6.EE.2a** Write expressions that record operations with numbers and with letters standing for numbers.
- **6.EE.2b** Identify parts of an expression using mathematical terms; view one or more parts of an expression as a single entry.
- **6.EE.2c** Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order.

6.EE.3 Apply the properties of operations to generate equivalent expressions.

6.EE.4 Identify when two expressions are equivalent.

BIG IDEAS

- Expressions are mathematic
- An expression can include le
- Expressions are used in real

ESSENTIAL QUESTION

- What process can you use t
- Why do properties of operati
- Why is there a process for si
- Why do we differentiate betv

✓ key vocabulary

✓ vertical alignment

sample pacing calendar

EXPRESSIONS PACING GUIDE

CCSS

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Exponents Student Handout 1 Homework 1	Order of Operations Student Handout 2 Homework 2	Evaluating Expressions	Properties of Operations	Expressions Quiz

DAY 6	DAY 7
Combining Like Terms Student Handout 5 Homework 5	Distributive Property Student Handout 6 Homework 6

DAY 11	NOTES
Expressions Unit Test Unit Test	

EXPRESSIONS OVERVIEW

CCSS

TOPIC	TEACHING TIPS
Order of Operations	• Order of operations can be a tricky concept for students. Consider emphasizing the process and following specific steps. • A fun engagement piece is to bring in a recipe for a batch of cookies. If you wanted to get creative, you could bring some of the ingredients and "make" the recipe out of order. Have students discuss why the order is important and then relate it to order of operations. • Note: Students need to underline each step. I usually taught it this way and required the work. You could also have them highlight or use a colored pencil.
Evaluating Expressions	• This is a great activity for dry erase markers and color tiles. Have students write the expression on their desk and have each color tile represent a different variable. Students can work with a partner to check their work and coach each other. Just a quick idea to change it up a bit.
Properties of Operations	• Properties are a struggle to recall and apply. I would suggest creating a large anchor chart with a three-column table. Include the name of the property and an example of two equivalent expressions. The key concept students should be able to recognize is that each property results in an equivalent expression; the property does not change the problem.
Writing Expressions	• Have students work in groups of four and sketch a graphic organizer similar to a Frayer model on the butcher paper. In the middle of a large piece of butcher paper write an expression, and then have students come up with four different verbal expressions that are equivalent. Let students use markers to make it a bit more fun!
Real World Application	• It is easy for students to get confused when comparing two unknowns. Encourage students to determine what the variable is and then compare the other unknown to it. • I have also found it helps when students use variables other than x to describe the different situations. For example, the first letter of a person's name in the problem or w for width.

teaching ideas

A MANEUVERING THE MIDDLE® RESOURCE

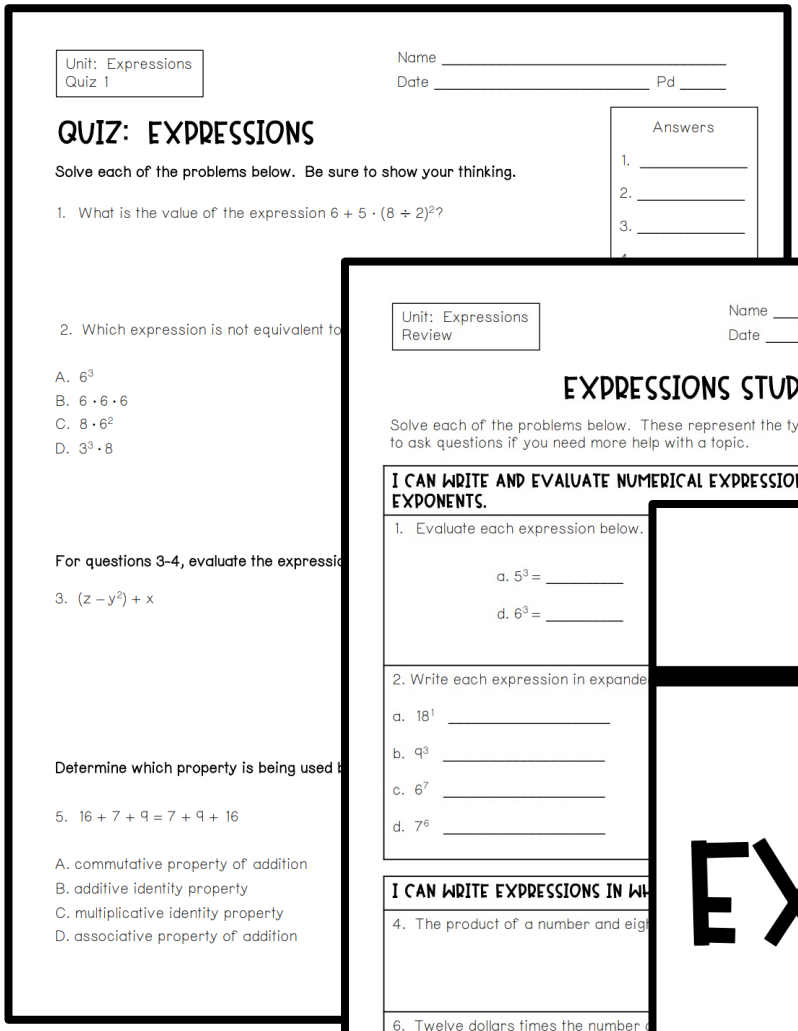
EXPRESSIONS

6th GRADE

a 10 day CCSS-aligned unit

CCSS: 6.EE.1, 6.EE.2, 6.EE.2a-c, 6.EE.3, 6.EE.4

unit study guide + assessments



Unit: Expressions
Quiz 1

Name _____
Date _____ Pd _____

QUIZ: EXPRESSIONS

Solve each of the problems below. Be sure to show your thinking.

1. What is the value of the expression $6 + 5 \cdot (8 \div 2)^2$?

Answers
1. _____
2. _____
3. _____

2. Which expression is not equivalent to

A. 6^3
B. $6 \cdot 6 \cdot 6$
C. $8 \cdot 6^2$
D. $3^3 \cdot 8$

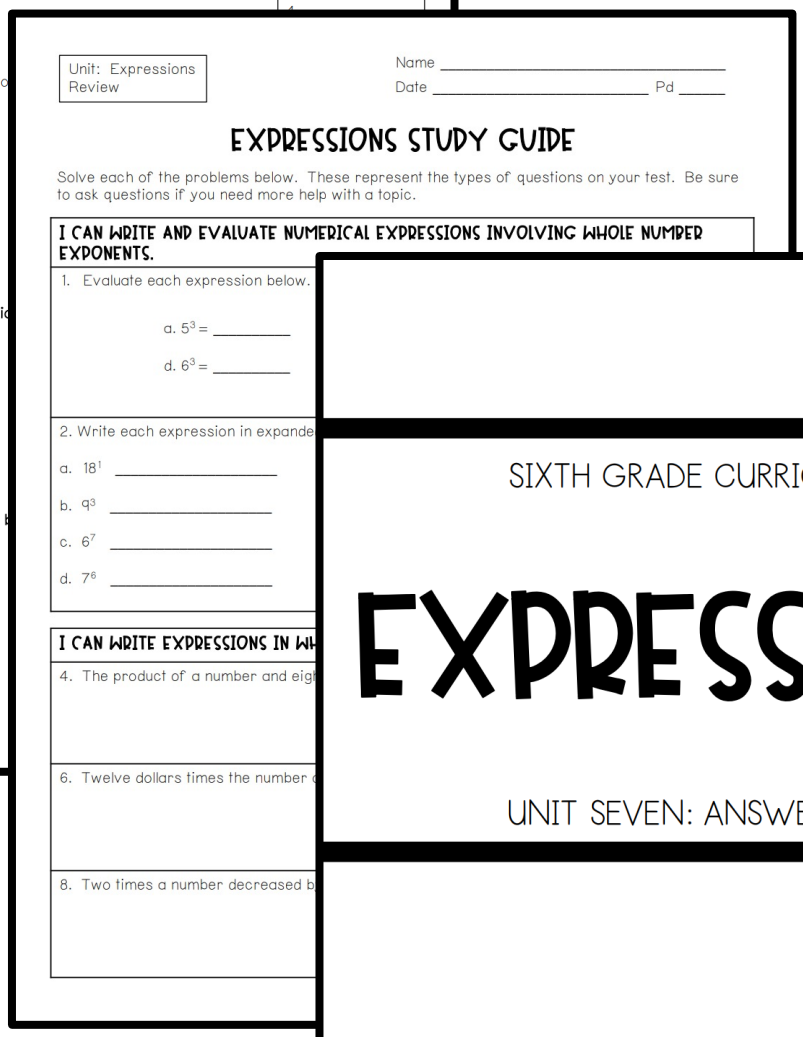
For questions 3-4, evaluate the expressio

3. $(z - y^2) + x$

Determine which property is being used b

5. $16 + 7 + 9 = 7 + 9 + 16$

A. commutative property of addition
B. additive identity property
C. multiplicative identity property
D. associative property of addition



Unit: Expressions
Review

Name _____
Date _____ Pd _____

EXPRESSIONS STUDY GUIDE

Solve each of the problems below. These represent the types of questions on your test. Be sure to ask questions if you need more help with a topic.

I CAN WRITE AND EVALUATE NUMERICAL EXPRESSIONS INVOLVING WHOLE NUMBER EXPONENTS.

1. Evaluate each expression below.

a. $5^3 =$ _____

d. $6^3 =$ _____

2. Write each expression in expande

a. 18^1 _____

b. 9^3 _____

c. 6^7 _____

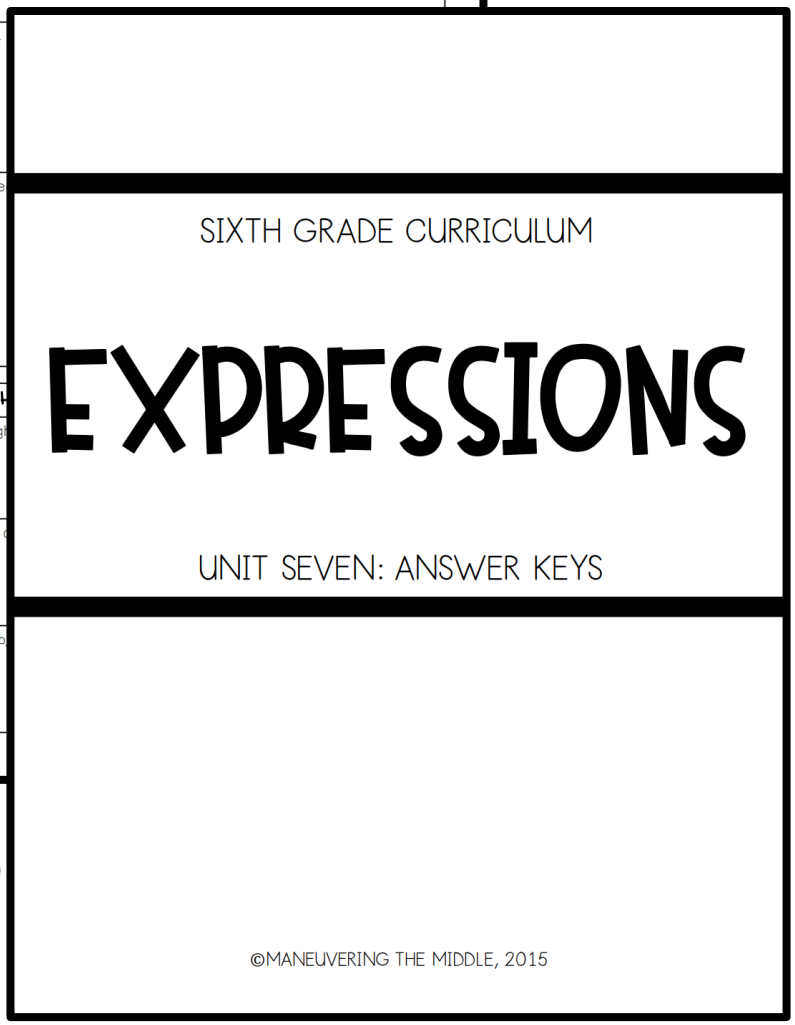
d. 7^6 _____

I CAN WRITE EXPRESSIONS IN WH

4. The product of a number and eig

6. Twelve dollars times the number

8. Two times a number decreased b



SIXTH GRADE CURRICULUM

EXPRESSIONS

UNIT SEVEN: ANSWER KEYS

- ✓ quizzes
- ✓ editable unit test

answer keys included

A MANEUVERING THE MIDDLE® RESOURCE